Arthroscopic Broström repair with Gould augmentation via an accessory anterolateral portal for lateral instability of the ankle: A preliminary report

Teikyo University
Department of Orthopaedic Surgery
Japan

Kentaro Matsui, Masato Takao, Wataru Miyamoto, Ken Innami, Fumito Komatsu, Jun Sasahara, Youichi Yasui, Shinya Miki, Takahiro Inui, Takashi Matsushita
Arthroscopic Broström repair with Gould augmentation via an accessory anterolateral portal for lateral instability of the ankle: A preliminary report

Kentaro Matsui

My disclosure is in the Final AOFAS Mobile App.
I have no potential conflicts with this presentation.
Recently several kind of arthroscopic surgeries have been reported for the treatment of lateral instability of the ankle\textsuperscript{1-5}.

But there still remain some concerns including the technical troublesome and following uncertain clinical results.

We simplified the arthroscopic Broström repair and arranged the approach for Gould augmentation.

The purpose of this study was to review the short-term results of our arthroscopic technique for lateral instability of the ankle.
Material and method

10 consecutive patients (10 ankles) with Lateral instability of the ankle without other comorbidities i.e. osteochondral lesion or impingement syndrome.

Treated at Teikyo university hospital with arthroscopic Broström repair with Gould augmentation

Minimum 6 month follow up after surgery
Mean follow up period 7 month (6-8m.)

Retrospective reviewed
1. Surgical time
2. Complications
3. American Orthopedic Foot and Ankle Society (AOFAS) Ankle-Hindfoot score
Surgical technique

Our technique contains following 4 Steps:

1. Step1: Making two ports
2. Step2: Inserting the first suture anchor
3. Step3: Suturing the remnant of ATFL
4. Step4: Gould augmentation with another suture anchor
A medial midline (MM) port (just lateral to the tibialis anterior tendon) was used for the viewing port.

The MM port is useful to visualize the lateral ligament of the ankle as compared to the anteromedial (AM) port.

An accessory anterolateral (acAL) port was placed few mm proximal to the intersection of the anterior fibula line (red dot) and tip of the fibula (blue dot).

It goes through the proximal side and the proximal one-third of the ATFL fibers.
The first anchor was placed on between the inferior border of the AITFL (blue dot) and arthroscopic tip of the fibula (the area indicated with arrow heads).

The drill for the anchor was directed anterior to posterior at approximately 45 degrees to the longitudinal axis of the fibula and parallel to the plane of the lateral gutter.

The anchor was introduced into the bone hole through the acAL port.
An 18 gauge needle with a 2-0 nylon loop was introduced through the acAL port as a suture lasso.

Penetrate the proximal third of the remnant of the ATFL from inferolateral to superomedial under direct arthroscopic visualization and relay the suture.

The suture was tied with the sliding knot technique with the ankle in neutral position and cut with a suture cutter under arthroscopic visualization.
Another suture anchor was introduced to the proximal aspect of the first anchor (the area surrounded with arrow heads).

The IER (Inferior extensor retinaculum) were freed by blunt dissection from the acAL port, then the IER is pulled out through the acAL port with a grasper under direct visualization.

One limb of the suture anchor was threaded through the acAL port and tied with the sliding knot technique.

A compressive bandage and U slab with the ankle in neutral position were applied for 1 week after the operation, followed by a soft ankle brace for 6 to 8 weeks. Weight bearing and active range of motion exercise were permitted the day after surgery with the goal of an early return to sports activity.
**Result**

**Surgical time**
- Mean: 36 min (range: 26-95)

**Complications**
- No

**AOFAS Ankle-Hindfoot score**
- **Pain**
  - Pre: 71 ± 6 (95% CI)
  - Post 6m.: 98 ± 2 (95% CI)
- **±6 (95% CI)**
Our arthroscopic surgical technique indicated good clinical result without any complications.

Although our technique is simple, it needed some experience to reduce the learning curve.

**Limitations**

- ✓ small sample size
- ✓ short term
- ✓ non randomized
- ✓ non comparative
Conclusion

The arthroscopic Broström repair with Gould augmentation via an accessory anterolateral portal indicated **good clinical result without any complications.**

It was **simple technique with two small ports with less morbidity to the patients.** We believe it is a safe and effective procedure to **allow faster recovery to the sports activity.**

Reference